Open Access/Open Data Implementation Plan

International Center for Tropical Agriculture (CIAT)
&
CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS)

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Section 1: Introduction

1.1: Purpose of the OA/OD Implementation Plan

CIAT believes that open access contributes to its mission of reducing hunger and poverty, and improving human nutrition in the tropics through research aimed at increasing the eco-efficiency of agriculture. CIAT regards its research outputs as international public goods and is committed to ensuring that they lead to the broadest possible impact on target beneficiaries and to their use in order to maximize their global accessibility and potential impact.

The International Center for Tropical Agriculture (CIAT) leads the CGIAR Research Program (CRP) on Climate Change, Agriculture and Food Security (CCAFS). Most of the core partners involved in this program are CGIAR centers. Therefore, CCAFS will follow and adhere to the overall CGIAR Open Access and Data Management Policy and CIAT's own OA/OD policies. However, CCAFS will develop its own procedures and systems that can work across all partner institutions. Therefore, CCAFS has been involved in developing an open source solution called Planning and Reporting (P&R) system designed to assist in the planning and reporting of CCAFS-related research activities and deliverables.

1.2: Scope of Open Access and Definition of Openness

This OA/OD Implementation Plan has been developed pursuant to the CGIAR Open Access and Data Management Policy (adopted in 2013) and the CGIAR Open Access and Data Management Implementation Guidelines (adopted in 2014). This policy framework stipulates that open access is required for all CGIAR information products,[1] with the exception of those subject to narrow limitations such as the following:

a) Final information products produced prior to 2 October 2013 (i.e., the effective date of the CGIAR Open Access and Data Management Policy);
b) Information products that are unstable, likely to undergo further change, or contain characteristics that are assessed to be of limited value to others (e.g., because of low quality);
c) Information that is determined to be of a sensitive nature because of considerations including privacy, price and political sensitivity, adverse effects on farmers' rights, etc.;
d) Confidential information associated with permitted restrictions or subject to limited delays to seek IP rights pursuant to the CGIAR IA Principles;
e) Confidential information of centers beyond the scope of the CGIAR Open Access and Data Management Policy or the CGIAR IA Principles (for instance, HR hiring documents, personnel records, certain types of financial records, certain types of contracts or vendor agreements, and private Board of Trustee minutes all include sensitive and/or confidential information and will not be included in OA repositories).

For the purposes of the CGIAR Open Access and Data Management Policy, open access means the immediate, irrevocable, unrestricted, and free online access by any user worldwide to

[1]The indicative information products covered by the policy are peer-reviewed journal articles; reports and other papers; books and book chapters; data and databases; data collection and analysis tools; video, audio, and images; computer software; web services.

information products, and unrestricted reuse of content (which could be restricted to non-commercial use and/or granted subject to appropriate licenses in line with the CGIAR IA Principles), subject to proper attribution.

1.3: Overview of CIAT/CCAFS

CIAT develops technologies, methods, and knowledge that better enable farmers, mainly smallholders, to enhance eco-efficiency in agriculture. This means we make production more competitive and profitable as well as sustainable and resilient through economically and ecologically sound use of natural resources and purchased inputs.

CIAT is a member of the CGIAR Consortium and lead center of the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), and is contributing to 11 other CGIAR research programs (CRPs). CIAT has its headquarters near Cali, Colombia, with regional hubs located in Nairobi, Kenya, and Hanoi, Vietnam. The Center's staff – numbering nearly 1,000 and including 369 scientists – work in Latin America and the Caribbean (LAC) as well as sub-Saharan Africa and Asia. Their collaborative efforts in these regions have generated important research achievements with substantial development impact. In 2014, CIAT's research efforts reached US$129 million. Among the top funders of CIAT are the CGIAR fund, ACIAR, Bill & Melinda Gates Foundation, DFATD, EC, BMUB, Germany, Ford Foundation, the United States, GIZ, BMZ, Global Crop Diversity Trust, Germany, IFAD, MADR Colombia, SIDA, SDC, SFSA, and USAID.

In 2014, CIAT scientists published 171 peer-reviewed articles, many in high-impact journals such as Proceedings of the National Academy of Sciences USA, Climatic Change, PLoS One, and Applied Soil Ecology. Staff and scientists published 8 books and 11 book chapters, and produced a wealth of videos, infographics, web tools, and presentations, allowing our research results to reach a wider audience and achieve greater impact.

1.4: Overview of Current OA/OD Environment at CIAT/CCAFS

CIAT adopted the CGIAR open access policy authored in October 2013 to fully replace CIAT's own data management policy that was implemented in February 2012. This policy mandated the prompt and broad dissemination of information products produced by research.

Open access and open data are coordinated by the data and information management group, which is part of the Program Coordination area in the Office of the Director General. This group provides the overall guidance and coordination of the implementation of CIAT's open access and data management policy. This team also manages CIAT's institutional open repositories.

CIAT maintains three open access repositories, Dataverse and DSpace, for OA/OD and, in collaboration with CCAFS and other partners, the AgTrials platform for crop trial data. Researchers are also allowed to deposit information products in CGIAR-approved domain-specific global platforms such as NCBI for genotypic data.

- DSpace: for non-data products.
  DSpace is CIAT's repository for publications and other non-data information products such as tools and toolkits. The repository is hosted on CGSpace,[2] which is a collaborative initiative

[2] https://cgspace.cgiar.org/handle/10568/35697

of seven CGIAR centers and research programs led by ILRI to host a shared DSpace platform. CIAT's CGSpace collection is referred to as *CIAT Research Online*.

- Dataverse: for general data.
  Dataverse[3] is CIAT's data publishing and sharing platform. All data underpinning publications such as journal articles are published on Dataverse. Dataverse is also used to publish project data or a group of related data as a comprehensive dataset. CIAT's Dataverse is hosted on the Harvard Dataverse Network, which is currently the biggest Dataverse network.
- AgTrials: for agricultural trial data.
  CIAT publishes data for its crop evaluation trials on AgTrials.[4] AgTrials is a platform that is developed and hosted by CCAFS in collaboration with CIAT and other partners.

CCAFS data portals include, but are not limited to, the CCAFS agricultural trial data repository (AgTrials), the Adaptation and Mitigation Knowledge Network,[5] the CCAFS-Climate data portal,[6] CCAFS research data on Dataverse,[7] and the Repository of Agricultural Research Outputs on CGSpace. The last two portals comply with the CGIAR Open Access Policy.

1.5: Information Products and Priorities

The table below indicates the CIAT information product types that are covered by this plan.

CGIAR OA Policy Product Categories	**CIAT Information Products**
Peer-reviewed journal articles	Peer-reviewed journal articles
Reports and other papers	Conference papers
	Conference and workshop proceedings
	Policy briefs
	Non-refereed journals
	Manuals and guides
	Posters and infographics
	Annual reports
	Corporate publications
	Presentations
	Working papers
	Media releases

[3] https://dataverse.harvard.edu/dataverse/CIAT
[4] http://www.agtrials.org/
[5] http://www.amkn.org
[6] http://www.ccafs-climate.org
[7] https://dataverse.harvard.edu/dataverse/CCAFSbaseline

	Other reports
Books and book chapters	Books and book chapters
Video, audio, and images	Video, audio, and images
Computer software	Computer software
	Analysis tools
	Tools and toolkits
Data and databases	Databases
	Datasets
	Data collection tools

Although CCAFS categorizes research outputs slightly differently, all the products covered on this plan listed above are covered by CCAFS as well.

Priority will be given to final information products produced after October 2010. Datasets that underpin peer-reviewed journal articles will be prioritized for open data publishing. CIAT will also prioritize highly valued datasets for open data publishing. Highly valued datasets prior to October 2013 will be prioritized subject to availability of funding.

1.6: Deposit Schedules for Information Products

The timeframes stated in the Implementation Guidelines (Table 1) reflect the minimum deposit commitments made by CGIAR centers during the transition period until 2 October 2018, after which the deposit schedule contained in the policy becomes binding.

Table 1: Deposit Schedules from the CGIAR Open Access & Data Management Policy and Implementation Guidelines.

Types **of Information Products**	**Transition Deposit Schedule** (until 1 October 2018)	**Policy Deposit Schedule** (from 2 October 2018)
Peer-reviewed versions of journal articles	As per the Policy Deposit Schedule unless OA is prohibited or subject to a longer embargo period by the publisher	Ideally, at the time of publication Latest: 6 months from publication
Self-published journals, books, reports, etc.	Immediately	Self-published materials not currently addressed in the policy
Reports and other papers	As soon as possible Latest: within 6 months of completion	As soon as possible Latest: within 3 months of completion
Externally or commercially published books and book chapters	As per the Policy Deposit Schedule	As soon as possible Latest: within 6 months of completion
Data and datasets	As per the Policy Deposit Schedule	As soon as possible Latest: within 12 months of completion of data collection or appropriate project milestone, or within 6 months of publication of the

		information products underpinned by those data
Video, audio, scientific images	As soon as possible Latest: within 6 months of completion	As soon as possible Latest: within 3 months of completion
Photographs	As soon as possible Latest: within 6 months of completion or publication	As soon as possible Latest: within 3 months of completion or publication
Computer software/applications/code	As soon as possible Latest: within 6 months of completion	Upon completion of software development
Metadata	As soon as possible Latest: before or on publication of the information product	As soon as possible Latest: before or on publication of the information product
Core/corporate governance documents appropriate for public consumption	For example, financial reports, board agendas and minutes, annual reports, as appropriate As soon as possible	As per "reports" category of information product (core/corporate governance documents not currently addressed separately in the policy)
Automated deposit extensions	Certain types of information products (in particular, data collected pursuant to hypothesis-driven research) may take longer than 12 months to clean, analyze, and publish. Thus, 12 months should be seen as the aim, with 24 months as the long-stop date for making such data open access.	A long-stop date of 24 months is not currently included in the policy.

Although the policy is designed to make final information products available via open access as quickly as possible, this transition process will take time; as such, implementation may occur through a phased approach. The Implementation Guidelines are intentionally broad in nature and designed to offer centers/CRPs as much flexibility as possible while they plan for and prepare their own implementation plans and approaches to supporting open access and data management. There is, therefore, allowance for a slightly longer gap between the completion of research and deadlines by which information products will be expected to be deposited into repositories.

It is expected that all partners, including those non-CGIAR partners who receive funding from CCAFS, will adhere to CGIAR's open access policy.

1.7: Exceptions and Extensions to the Deposit Schedules

Any determination that research outputs (i.e., publications, data, or other types of information products resulting from research) should not be made openly accessible because they are subject to confidentiality or are of a highly sensitive nature should be submitted in writing for approval by the respective research area director and the Legal Office-General Counsel. For instance, exceptions to the policy may be made for materials that might adversely affect farmers' rights, have privacy implications for individuals, are politically sensitive in nature, or contain pricing details that could negatively affect farmers.

For instances in which the deposit timeframes specified in Section 1.5 cannot be achieved, researchers should notify in writing the Data and Information Manager. Notification should be sent upon the lapsing of the deposit schedule or sooner if known in advance, and should include an explanation of the challenges that have delayed or prevented deposit as well as any other relevant information to facilitate internal follow-up and assistance.

Likewise, when the long-stop date of 24 months cannot be achieved, researchers should notify in writing the Legal Office-General Counsel and the Data and Information Manager. Notice is to be given upon the lapsing of the 24 months or earlier if delays are anticipated in advance. The notice should include an explanation of the challenges experienced that have delayed or prevented the deposit and any other pertinent information that could facilitate internal follow-up and assistance. The information collected in these notices will serve as evidence to inform evaluation during the transition period and any future review of the Open Access Policy and Implementation Guidelines.

In addition, CCAFS will use its resource-based management systems for monitoring and validation of compliance with the OA policy and track timeliness and OA restrictions accordingly.

Section 2: Strategy and Implementation Overview

2.1: Overview of Strategy and Approach to Implementation

CIAT regards its research outputs as international public goods and is committed to their widespread diffusion and use in order to maximize their global accessibility. CIAT will use FAIR guiding principles in ensuring that all final research products are findable, accessible, interoperable, and reusable.

CIAT has consolidated all work processes related to open access and open data with the Data, Information, and Knowledge group under Program Coordination in the Office of the Director General. This group will work in ensuring that all final information products are available in open access according to the set timelines.

CCAFS is mandated to produce international public goods and has developed its own Data Management Strategy (DMS) to enable the program to fulfill its obligations with respect to making data and the relevant supporting documentation from its research activities available to the world community.

2.2: Goals and Objectives

CIAT regards the results of its research and development activities as international public goods and is committed to their widespread dissemination and use to achieve the broadest possible impact on target beneficiaries such as smallholder farmers in developing countries. A planned, rigorous, and consistent approach to data management will also ensure that data are collected, stored, analyzed, and shared in a manner that will have the greatest impact, while also protecting the rights of third parties and stakeholders when appropriate.

CIAT-specific goals and objectives for open access and open data are the following:

1. CIAT research outputs are distributed widely using standardized and widely acceptable platforms.
2. CIAT embraces an open science culture and is compliant with the open access/open data policy.
3. Data and information management practices are optimized and mainstreamed in the center and well connected with CRPs.
4. That CIAT's Data, Information, and Knowledge group becomes a knowledge hub for center

staff, partners, and stakeholders.

CCAFS goal: CCAFS is well aligned with CIAT's overall goal mentioned above and committed to making its research products available for long-term use by partners and the scientific community.

CCAFS-specific objectives are the following:

1. To guide CCAFS in designing and implementing support mechanisms to reach the goal.
2. To make available high-quality Data+ to potential users now and well into the future.
3. To encourage appropriate standardization, adoption of international standards, and harmonization so that data from separate research activities can be brought together to enrich our understanding of processes, outcomes, and impacts in the areas of the world where CCAFS works.
4. To promote the production of "FAIR" outputs:
    a) Findable: Data and metadata should be richly described to enable attribute-based search.
    b) Accessible: Data and metadata should be retrievable in a variety of formats that are sensible to humans and machines using persistent identifiers.
    c) Interoperable: The description of metadata elements should follow community guidelines that use an open, well-defined vocabulary.
    d) Reusable: The description of essential, recommended, and optional metadata elements should be machine-processable and verifiable, use should be easy, and data should be citable to sustain data sharing and recognize the value of data.
5. From 1 July 2016, at least 70% of all non-data research outputs from the previous year available OA via CGSpace.

2.3: Timelines and Key Milestones

CIAT-planned activities for 2015–2018

- Implement the recommendations in this OA-OD implementation plan.
- Support and harmonize data management in research projects with special attention to CIAT regional offices.
- Strengthen the CIAT data management community of practice.
- Increase the number of CIAT datasets published online year on year targeting 50% of all research data produced by 2018.
- Deploy an internal data management planning tool to help researchers create data management and sharing plans.
- Operationalize CGSpace by finalizing the importation of all outputs from CIAT's old DSpace collection into CGSpace.
- Increase open access of CIAT information products year on year targeting 80% openness of non-data outputs by 2018
- Improve distributed submission of research outputs into CIAT repositories by increasing submitters from other regions and research units.
- Complete digitization of the CIAT Library's print collection for inclusion of digitized material in CGSpace.
- Incorporate unique author ID numbers into CIAT's repository records.

- Have internal communication and capacity building to increase open access and open data awareness in CIAT.
- Data and Information Management team publishes a newsletter every second month, highlighting newly archived datasets, publications, and other product types.
- Enable viewing of content from CIAT repositories on the CIAT website.
- Create an open access/open data support pack containing all supporting documentation for researchers.

CCAFS activities 2015–2017
CCAFS has developed a platform called Planning and Reporting (P&R) system designed to assist in the planning and reporting of CCAFS-related research activities. In addition to serving as the principal avenue for Theme Leaders (TLs), Regional Program Leaders (RPLs), Contact Points (CPs), the Coordinating Unit (CU), and Center Principal Investigators (PIs) to submit and review yearly activity plans and reports, it is also a repository for all CCAFS activities from 2010 onward.

The system allows flagship reporting with results-based management, outcome-focused planning and reporting. The planning phase takes place in August and the reporting phase in January. After these phases, CCAFS collects submitted information, the deliverables reported are already prioritized, CCAFS categorizes the information and validates it, and finally disseminates the different outputs reported.

The following activities will be important:

- Continue to build and maintain CGSpace and improve the quantity and quality of the outputs available.
- Follow recommendations from the OA-OD implementation plan.
- Develop open access work plans for the phase 2 CRP proposals:
    - Contribute to the M&E/RBM sections of the full proposal
    - Support and ensure OA/OD compliance
- Make ICT analytical platform (P&R) ready.
- AgTrials project:
    - Develop and improve usability; revamp the interface and search engine
    - Ensure that AgTrials is responsive to user needs
    - Consult with AgTrials stakeholders with the aim to develop a vision and plan for the future
    - Adopt and make it compatible with the CGIAR Core metadata schema and forms
    - Explore and scope possibilities for developing data analytics
- Disseminate CRP research outputs effectively.
- Ensure good performance and improvements of CCAFS data portals.
- Apply usability and interface improvements in best practices in all CCAFS platforms.
- Standardize all CCAFS portals.

2.4: Anticipated Needs and Challenges

- **Schedule:** CIAT will need (until the end of 2017) to be fully compliant and achieve current data and information management objectives, including open access and open data implementation. CCAFs will improve its system to ensure that it is easy for all partners to adhere to reporting and publishing schedules when they use interoperable systems.
- **Budget:**

  - CIAT is currently adjusting budgets to allow better resourcing at HQ and in the regions. The budget allowance for each region should have a data and information manager to handle OA-OD matters.
  - Yearly maintenance cost of the CGSpace repository is required for CIAT and CCAFS.
  - Yearly maintenance cost for the following CCAFS data repositories is required: CCAFS P&R, AMKN, Analogues, AgTrials, and CCAFS Climate.
- **Skill sets:**
  - CIAT has a strong skill set of data managers across projects and programs. The need is to federate competencies and facilitate interaction among them.
  - CIAT will also have to enable sufficient staff to enter items into repositories using the correct metadata standards, as per CGCore metadata standards.
- **Technology to be acquired, updated, maintained, installed, etc.**
  - CCAFS will update its P&R system to automatically collect research output metadata from compliant systems.
  - CCAFS will update all its data management platforms to be compliant with CGIAR repository protocols such as OAI-PMH and SWORD.
  - Technical developments and aesthetic improvements will be made to the central CGSpace repository.
  - CIAT will further enhance the plug-in that servers use to send repository contents to the website to be more sophisticated in terms of searching, sorting, and other enhancements.
- **Researchers' awareness, compliance, challenges:** CIAT has a whole group of OA-friendly scientists. One-by-one interaction is needed to guide skeptical scientists and provide assurance that information and data are made openly accessible in a secure manner. The data and information group will strive to be a knowledge hub to support researchers in issues related to open access, open data, and research data management. The team will also conduct seminars and training activities to raise awareness on these issues.

2.5: Lead Centers, Participating Centers, and Partners

Information products produced by lead centers and participating centers (including partners) in CRPs are subject to the Open Access and Data Management Policy. Agreements put in place after 2 October 2013 should be carefully negotiated to ensure that any restrictions on sharing data under a research and/or development project are limited in duration, territory, and/or field of use, if applicable, and fully justifiable by reference to the CGIAR IA Principles (i.e., in particular, articles 6.2, 6.3, and 6.4)[8] and the CGIAR Open Access and Data Management Guidelines.

CCAFS is led by the International Center for Tropical Agriculture (CIAT). CCAFS is a collaboration among all 15 CGIAR research centers and coordinates with the other CGIAR research programs. CIAT and CCAFS will develop one open access and implementation plan that will highlight key differences in implementation when these are relevant. Most CCAFS researchers will deposit research outputs in their respective center repositories, which are expected to be compliant with standards. CCAFS aims to automatically harvest these outputs during reporting to ensure that researchers do not have to enter information in more than one system.

[8] Article 6.2 is on "Limited Exclusivity Agreements," Article 6.3 is on "Incorporation of Third Party Intellectual Assets," and Article 6.4 is on "Intellectual Property Rights," all part of the CGIAR IA Principles.

Section 3: Technical Infrastructure

CIAT and CCAFS currently maintain two general-purpose repositories for OA-OD of research outputs, DSpace and Dataverse, and one repository specifically geared to publishing crop trials data, AgTrials. CCAFS also has other data platforms for sharing climate data.

CGSpace hosted on DSpace is used for all non-data research outputs such as publications, while Dataverse is used for data outputs. AgTrials and other CCAFS data platforms (AMKN, CCAFS-Climate, AgImpacts, and CSA Tool) are in the process of becoming accessible and compliant with the standards and policies of the CGIAR.

3.1: Repository Systems

DSpace is the CIAT repository for non-data research outputs such as publications, images, and videos.[9] The CIAT and CCAFS DSpace platform is hosted on CGSpace, a collective repository for several CGIAR institutions and CGIAR research programs that is managed by the International Livestock Research Institute (ILRI). Currently, CIAT and CCAFS are two collections among 26 CGSpace communities. DSpace meets international standards for interoperability and metadata. The repositories are available with the following links:
CIAT: https://cgspace.cgiar.org/handle/10568/35697
CCAFS : https://cgspace.cgiar.org/handle/10568/3530

Dataverse is CIAT's and CCAFS' general-purpose data publishing platform. Dataverse is used to publish primary data resulting from research. These include primary data that underpin publications such as journal articles and project data such as baseline studies, surveys, and experiments. Dataverse adheres to international standards for interoperability and metadata and additionally automatically provides a data citation to allow a standard method for citing reused datasets. CIAT's and CCAFS' Dataverses are hosted by the Harvard Dataverse Network. Links to both repositories follow:
CIAT: https://dataverse.harvard.edu/dataverse/CIAT
CCAFS: https://dataverse.harvard.edu/dataverse/CCAFSbaseline

AgTrials is a data portal developed by CCAFS and partners that provides access to a database on the performance of agricultural technologies at sites across the developing world. It stores crop evaluation trials, mostly of varieties, but includes any agricultural technology for developing-world farmers. It standardizes data and information for the benefit of climate change analyses, future multi-environment trials, and research and development in international agriculture.

Other CCAFS platforms: CCAFS owns other data portals such as the Adaptation and Mitigation Knowledge Network (AMKN), CCAFS-Climate, and AgImpacts. These portals are being updated to implement the OAI-PMH protocol in line with the specifications of the CGIAR Open Access and Data Management Policy.

3.2: Interoperability

[9] Currently, CCAFS uses Flickr and YouTube for archiving and sharing images and videos and is exploring the possibility of indexing images and videos in DSpace as well.

Dataverse is OAI-PMH compliant, which allows for metadata for datasets to be harvested. Dataverse can also import data from other OAI-PMH-compliant repositories. Additionally, Dataverse provides a rich set of APIs[10] for data retrieval, search, and data deposit, including a SWORD[11] and data access[12] API.

DSpace is also OAI-PMH compliant with a configurable OAI-PMH server that allows all metadata to be harvested. DSpace can also harvest data from other OAI-PMH servers. DSpace provides for REST API.[13] CGSpace will be migrated to version 5 of DSpace, whose REST API is more comprehensive with additional features such as access to restricted content via authentication.

CCAFS has already defined the OAI-PMH protocol to be implemented in all its data portals. The first data portals implementing this interoperability protocol are AgTrials, AMKN, and CCAFS-Climate (already implemented). The second phase will cover Analogues and CCAFS P&R.

3.3: Metadata

CIAT and CCAFS have adopted the CGCore metadata standard and will ensure that all metadata elements are included in all repositories and platforms.

CIAT and CCAFS, as members of the CGSpace initiative, will work with partner centers and CRPs to ensure that CGCore standards are implemented on CGSpace. To enhance discoverability, CIAT and CCAFS also uses CIAT-specific and CCAFS-specific subject terms, designed to reflect their research themes.

Please see Appendix 1 for a crosswalk of CGCore with DSpace.

Dataverse uses Dublin core as the underlying metadata schema, which is compatible with the CGCore schema. CIAT and CCAFS will be working with the other members of the CGIAR Dataverse group to ensure that missing elements of the CGCore metadata schema are incorporated into the Harvard Dataverse Network.

Please see Appendix 2 for a crosswalk of CGCore with Dataverse.

The CCAFS P&R platform and AgTrials have already implemented the CGCore metadata schema and other CCAFS platforms are in progress to comply with CGCore.

Dataverse and CGSpace both use handle-based systems to manage and resolve persistent identifiers for research outputs. DSpace uses the handle.net[14] system directly while Dataverse uses the digital object identifier (DOI)[15] system.

[10] http://guides.dataverse.org/en/latest/api/index.html
[11] http://guides.dataverse.org/en/latest/api/index.html
[12] http://guides.dataverse.org/en/latest/api/dataaccess.html
[13] https://wiki.duraspace.org/display/DSDOC5x/REST+API
[14] https://www.handle.net/
[15] http://www.doi.org/

3.4: Data Storage and Preservation for Future Use

CIAT and CCAFS are committed to responsible and suitable management of works deposited in CGSpace, Dataverse, AgTrials, and other CCAFS platforms.

1. Digital preservation is an evolving field. CIAT/CCAFS bases its preservation strategy on the Open Archival Information System (OAIS) reference model (ISO 14721:2012). This strategy will continue to evolve and is informed by current and emerging best practices.
2. Efforts will be made to preserve any work submitted to CIAT/CCAFS repositories. However, contributors are strongly encouraged to deposit information products in a recommended file format to facilitate long-term preservation. See the table below for details. For files in other formats, a derivative copy in a more stable format should be created if feasible. In these cases, both versions and associated metadata should be deposited.
3. CIAT/CCAFS repositories will provide long-term access to submitted works along with associated metadata. To provide long-term access, CIAT/CCAFS will back up files in a secure and redundant manner, periodically refresh the storage media, and migrate obsolete file formats for files stored in recommended open file formats.
4. At this time, CIAT/CCAFS is committed to preserving the bitstream of files.
5. All works submitted to CIAT/CCAFS repositories will receive a persistent URL.
6. This policy will be reviewed annually to ensure that practices are consistent as technology and best practices evolve.

Recommended file formats for publications:

Format	File Extensions
Comma-separated values	.csv
Tab-separated files	.tsv, .txt, .tab
Geospatial data	Esri shape file, geo-referenced TIFF
Acrobat PDF/A	.pdf
Open Office formats	.odt, .ods, .odp
Plain text (US-ASCII, UTF-8)	.txt
XML	.xml
Quantitative tabular data	RData, SPSS (.por, .sav), STATA (.dat) *These files are automatically reformatted on Dataverse.
Images	.tif (recommended), .png, .jpg
Digital audio	.flac (recommended), .mp3
Digital video	.mp4

3.5: Limited Internet Connectivity

To assist those with limited Internet connectivity, designing easily accessible information products or providing alternate versions of materials that require minimal data download is encouraged if it does not affect the quality of the information products.

To maximize uptake within these environments, CIAT/CCAFS will ensure that best practices are used to make all files available such as compressing large files, breaking datasets into multiple smaller files, and breaking up large PDFs into smaller chapter files.

Section 4: IPR/Intellectual Assets

4.1: CGIAR Principles on the Management of Intellectual Assets

The CGIAR IA Principles and associated implementation guidelines provide for the prompt and broad dissemination of research results, which translates to a default assumption that information products should be made accessible as soon as possible, subject to confidentiality obligations as may be associated with restrictions permitted in said Principles. One of the principal tools for prompt dissemination is open access.

As Article 1 of the Open Access and Data Management Policy states, “this Policy complies with the CGIAR Principles on the Management of Intellectual Assets (CGIAR IA Principles), which is the umbrella document for this Policy.” The assumption of open access may be challenged by reference to the allowable/reportable restrictions and exclusions set out in the CGIAR IA Principles and associated implementation guidelines, and the guidance in these Guidelines that allows for restricting open access in certain circumstances.

4.2: Open Licenses

Article 4.1.5 states that “*Suitable open licenses shall be used that recognize the legal rights to information products and encourage their use and adaptation.*”

In addition to providing greater access to knowledge, open access and open data include provisions for allowing for the rights of others to reuse information products – which means using appropriate open licenses, but always having attribution obligations toward the provider of the information products.

For publications and data, CIAT and CCAFS recommend Creative Commons Attribution licenses (CC-BY 4.0) or equivalent licenses such as the Open Database License. CIAT and CCAFS, however, reserve the right to have other licenses that may be required by center/CRP partnership agreements that are in line with the CGIAR IA policy, for example, using CC-BY-NC (non-commercial) licenses when so required. The GNU General Public License (GNU GPL), Apache, MIT, or similar open licenses will be used for software and programming code.

4.3: Guidance for Authors

CIAT's Legal Office, through the General Counsel as IP Focal Point, will provide guidance to authors regarding IP issues. As per the Delegation of Authority Policy, the General Counsel has the authority to sign contracts relating to IA, other than those transferring IP, which are exclusively vested in the DG, who will be assisted by the General Counsel.

To assist authors during publishing, CIAT has implemented the CGIAR Addendum to the Publication Agreement (see appendix 7). The addendum is a legal document that accompanies the publishing/copyright transfer/licensing agreement during the publication process to ensure that CIAT retains the rights pertaining to distribution and depositing of publications into institutional repositories.

4.4: Translations

Article 4.1.7 of the CGIAR Open Access and Data Management Policy states that *"Translations of key documents and other media into pertinent languages are encouraged. All versions should be deposited in suitable repositories and made Open Access."*

CIAT and CCAFS encourage the adoption of CC-BY licenses; these licenses allow for re-use of information products, including translations. Bear in mind that a translation is a derivative work and can only be done with the authorization of the owner of the information product; the quality of a translation is key in the preservation of moral rights.

Section 5: OA/DM Teams and Staffing

5.1: Day-to-Day Operations

Research information management for CIAT:

- 1 librarian assistant
- 1 part-time librarian (0.5 FTE)
- IT and information systems support (0.5 FTE)
- Data and information manager (0.3 FTE)

Research information management for CCAFS:

- Data manager (0.5 FTE)
- Multimedia engineer (1 FTE)
- Communication specialist (0.5 FTE)
- Information manager (0.5 FTE)

Main tasks include the following:

1. Store full collections of CIAT and CCAFS research results in repositories, using consistent metadata standards
2. Make manuscripts and non-data research outputs openly accessible
3. Ensure that repository contents are well integrated with CIAT and CCAFS corporate websites and connect repositories with academic catalogs, search engines, and key agricultural information systems
4. Make information resources visible internally via the intranet and newsletters
5. Track and communicate impact
6. Support researchers in publishing and open access matters
7. Implement the data management strategy
8. Ensure the performance of data portals

Research data management:

2 full-time data managers in Coordination Unit (2.0 FTE)
2 part-time data managers in the region (0.5 FTE)
Data and information manager (0.4 FTE)

Main tasks include the following:

1. Implement data and sharing plans for projects
2. Harmonize project data management tools
3. Provide research data management support
4. Preserve data
5. Use open data sharing

Research process support:

1 full-time data/IT manager (1.0 FTE)

Main tasks include the following:

1. Design workflows
2. Design and set up virtual collaborative space
3. Provide research software support
4. Provide ICTs for research data management

Intellectual property support:

1 Legal counsel (0.2 FTE)

5.2: OAIWG and DMTF Representation

CIAT and CCAFS representatives to the CGIAR-wide groups are as follows:

Open Access Implementation Working Group (OAIWG):

CIAT : Simone Staiger, Leader, Data, Information, and Knowledge group.
CCAFS : Vanessa Meadu, Global Communications and Knowledge Manager

Data Management Taskforce (DMTF):

CIAT : Leroy Mwanzia, Data and Information Manager
CCAFS : David Abreu, Knowledge and Data Sharing Coordinator

5.3: <Center/CRP Steering Committee> and Other Internal Partners

CIAT has an open access group composed of the Data, Information, and Knowledge group, the program coordination, and legal advisory. The full team involves the following:

- Head, Program Coordination Unit
- Leader, Data, Information, and Knowledge; Program Coordination Unit
- Data and Information Manager; Program Coordination Unit
- Monitoring and evaluation expert; Program Coordination Unit
- Librarian; consultant
- Librarian; Data, Information, and Knowledge group; Program Coordination Unit
- Information technology expert; Data, Information, and Knowledge group; Program Coordination Unit
- Three data managers; Data, Information, and Knowledge group; Program Coordination Unit

CCAFS has set up a Knowledge Management working group to address issues related to open access. Members are the following:

- Leader of CCAFS Flagship 4 (Policies and Institutions). Currently Philip Thornton.
- A Knowledge & Data Sharing Coordinator, based at CIAT. Currently David Abreu.
- A Global Communications and Knowledge Manager, based in the CCAFS Coordinating Unit. Currently Vanessa Meadu.

Section 6: Promoting and Supporting Researchers' Implementation of OA for Publications

6.1: Deposit Workflows for OA Publications Repository

Deposit workflow for the CIAT Research Online (CGSpace) repository:

OA publications and products are currently collected by Library staff either directly from the product creators (scientists, corporate communications staff, etc.) or indirectly via database searches. The Library also ensures that corporate publications, briefs, infographics, and reports are included in the repository before being posted online by having a policy in which communicators have been requested not to post an article online without a link from CGSpace. Communications staff notify the Library when new CIAT Slideshares and YouTube videos are posted.

CIAT Library staff regularly consult academic databases, CIAT blog posts, Slideshare, and YouTube to ensure that all publications are included. Staff and scientists also submit information products that they notice are missing from CGSpace, the newsletter, or intranet publications list.

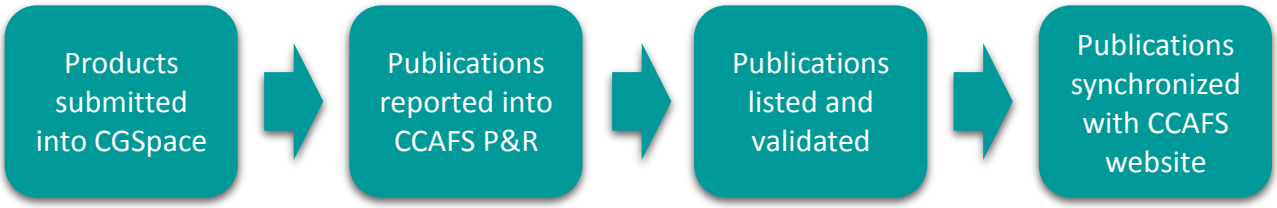
- **Primary CGSpace submitters:** Library assistant and library consultant. Efforts are being made to decentralize submissions into the research units and regions, as the scope of collections increases and logical submitters arise. Library staff have divided submission tasks according to product types. Urgent submissions are tended to by both the assistant and consultant. Repository submissions are made according to the *CIAT Research Online Submissions Manual,* developed by the CIAT Library.

  For limited-access articles:
  - The Library consults Sherpa-Romeo and publishers' websites for rules regarding manuscript publication.
  - If permitted by publishers, post-print or pre-print versions are requested from the author for inclusion in the repository.

- Authors need assistance identifying post-print and pre-print versions.
- The Library uploads post-print versions to the repository, setting embargo controls to the appropriate release date.

- **Editors:** Library staff edit and approve records before the final approval stage.
- **Final CGSpace approvers:** Library consultant, IT support, or Data and Information Manager approve completed repository submissions.
- **Item mappers:** After final approvals, Library staff or program administrative assistants (with an interest in pulling items from CIAT's main collections into sub-collections) can "map" items into additional/relevant repository collections.

Deposit workflow for the CCAFS Research Online (CGSpace) repository:



OA publications and outputs are currently submitted via two parallel approaches.

1) On an ongoing basis, a network of trained users submits outputs acquired directly from product creators into CGSpace. This ensures that publications are published as and when they are finalized.
2) On an annual basis, CCAFS project leaders report all their outputs through a system called Planning and Reporting (P&R) Platform. Project leaders are expected to have already submitted their publications to the relevant institutional repository, in which case only a link to the entry is required. The system validates the required information based on the CGCore metadata schema. However, entries may need to be manually validated and cleaned by CCAFS Knowledge Management staff. The last step is to import the metadata for all reported outputs into the CCAFS collection in CGSpace, which automatically synchronizes with the CCAFS website.

6.2: Author Guidance

The author guidance document provided by the Consortium office has been amended to be in line with CIAT's IA policy. This document (see Appendix 7) is available for authors to download on the CIAT intranet. Other documentation that could help authors will be developed, including adopting parts of the CGIAR Open Access Support Pack.

CIAT's Legal Office-General Counsel is always available to provide guidance on issues relating to intellectual property, especially when concerning copyright transfer and other potential legal obstacles during open access publishing, for example, confidentiality. The data and information management team provides guidance on publishing aspects such as impact factors of open access journals, publishers' policies on open access, and advice on predatory journals.

6.3: Funding for OA Fees

CIAT and CCAFS do not currently provide a central fund for OA article processing costs. CIAT and CCAFS encourage researchers to plan for open access and open data fees during the project initiation phase by means of a data management and sharing plan. This plan will ensure that researchers budget appropriately for data management and open access by including specific line items in their project proposals and project budgets.

6.4: Internal Communication Strategy

CIAT strategy has the following axes:

1. One-on-one dialogue with scientists: This occurs formally and informally. Scientists are interested in discussing open access and are eager to hear convincing arguments. The Library checks yearly on each publication with the corresponding scientist to track OA and OD status. Email provides a good starting point for discussion.
2. Presence on the intranet and web of open access guidelines, tips, and tools: The intranet will have a section in which this implementation plan is summarized and essential links are provided. It will also give access to the updated list of CIAT publications.
3. Internal newsletter with most recent publications and datasets, including metrics information. The newsletter is sent once every second month to all staff. Scientists check whether their latest publications have been included.
4. Content from CIAT's repositories is being included on CIAT's corporate website to showcase information products and raise awareness of the repository and its uses.
5. Data and information management staff Tweet new products and publications in order to raise statistics and generate enthusiasm for data and information repositories among scientists.
6. Facilitation of a community of practice of data managers and focal points for data management. This group was formed in 2014. It aims at understanding and sharing the different data management practices, harmonizing those when needed, and supporting staff who have data management functions. The diverse data that are managed at CIAT (biophysical, socioeconomic, spatial, climate data, etc.) should be understood by all and potentialized. The CoP is also an environment in which open access and open data can be advocated.
7. Inclusion of OA and OD targets in CIAT's business plan and communication about progress on those targets: The inclusion in CIAT's business plan allows the creation of high-level awareness about the need to become compliant and prepare the groundwork needed for efficient sharing of information and data.
8. Communication and connection with Human Resource Management: CIAT's policy and attitude toward open access are highlighted in the induction of all new staff. Research outputs have to be reported during the performance appraisal process. An award to staff to recognize outstanding contribution to increasing the visibility and impact of CIAT research through open access and open data publishing has been suggested but not yet approved.
9. Inclusion in communications and organizational change activities: Open access has been included as one item in a list of changes that CIAT is undergoing to adapt itself to a changing environment and stay relevant.

CCAFS will develop and implement an internal communications strategy that deals with a spectrum of users and activities, including the following:

1. Training open access ambassadors from CCAFS flagships and regions: These people will be focal points for ensuring that their flagship or region is complying with OA guidelines and they will also be responsible for coordinating submissions to CGSpace from their flagship,

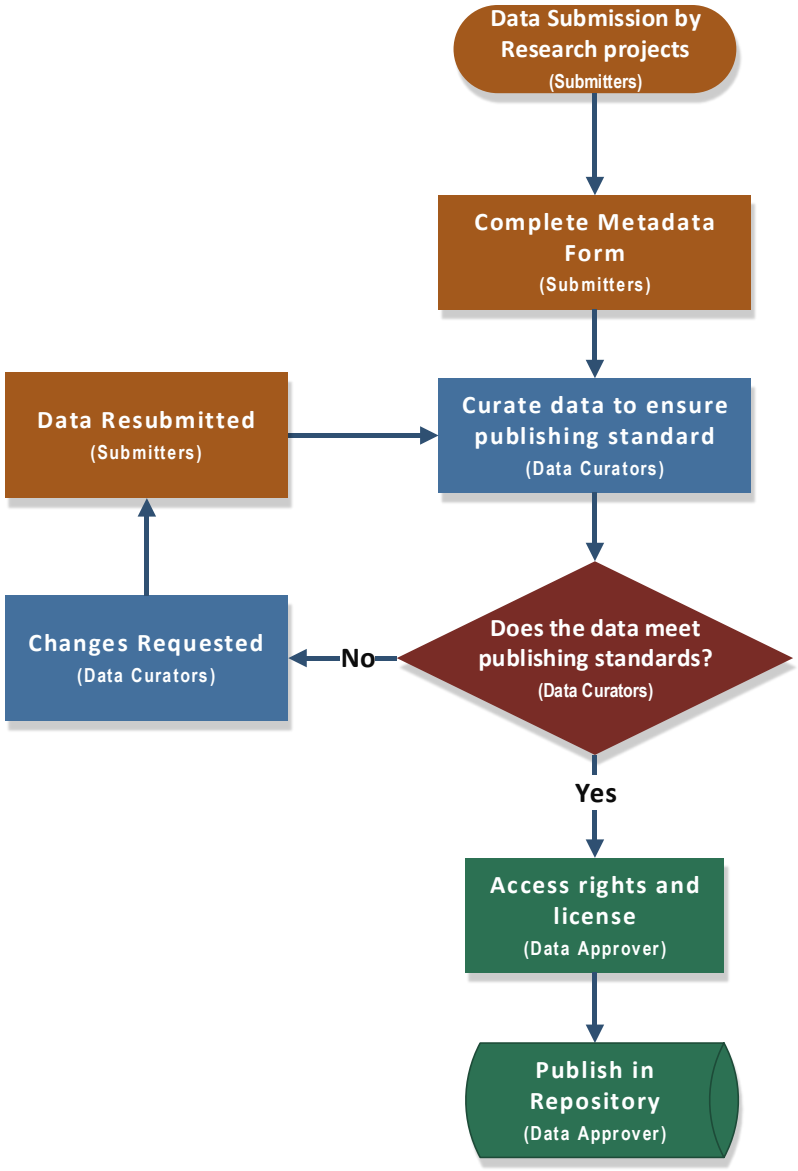
and ensuring correct reporting. Informally, this group will act as a community to share knowledge, lessons, and questions, and enable discussions on open access with the wider network of CCAFS scientists.

2. Presence on CCAFS intranet and web of open access guidelines, tips, and tools: The intranet will have a section in which this implementation plan is summarized and essential links are provided. It will also have a link to an updated list of CIAT publications.
3. Annual statistics report of CCAFS knowledge products – for internal use. This report, produced in January of each year, will include metrics of the top publications; analytics of websites, platforms, and databases; and other insights. This will allow scientists to monitor the use and uptake of their knowledge products, and guide decisions on value for money.
4. Content from CCAFS repositories automatically feeding into the CCAFS main website to showcase knowledge products and raise awareness of the repository and its uses.
5. Communications staff share new products and publications via social media and other channels in order to enhance dissemination and generate enthusiasm for knowledge products.
6. Participate in a CIAT-led community of practice of data managers and focal points for data management. Also participate in CGIAR-wide communities of practice on open access and knowledge management.
7. Inclusion of OA and OD targets in internal performance management indicators to monitor progress on targets.
8. Develop awareness among key CCAFS people of CCAFS policies and guidelines.

Section 7: Promoting and Supporting Researchers' Implementation of Open Data and Data Management

7.1: Deposit Workflow for Open Data Repository

The deposit workflow for CIAT data is illustrated in the figure below.



Data for publishing are produced by research projects and are submitted to the data and information team after the end of a project or when a publication has been published.

- **Data submission** – Efforts are underway to decentralize data submission. Data submitters can be researchers or research data managers or assistants or a member of the data and information team. Data submissions to Dataverse are made according to the Dataverse submission guidelines. Efforts are being made to prepare guidelines for other approved repositories.
- **Data curation** – Submitted data are curated to ensure that they meet the minimum required standards for data publishing. This includes ensuring that no personally identifiable information on any human subject is published, the data are well documented at both the dataset and file level, and that the dataset is linked to underlying publications and other related studies. No in-depth checks are done to ensure data quality at this stage as this should always be done at the project level. Curation is done by the data and information management team members.

- **Data approval** – When data meet all required publishing standards, the data and information manager approves the data for public usage after ensuring that all usage rights and licenses are in line with CIAT's OA/OD policy.

CCAFS wants to ensure that platforms are interoperable in order to have publications and products decentralized but still have control of all of them through CGSpace.

7.2: Support for Data Management Practices and Data Quality

CIAT has a data and information management team that provides support for issues that are specific to open data publishing such as timelines and which repositories to use. CIAT is in the process of creating research data guidelines, FAQs, and other documentation for researchers, taking advantage of the documentation already produced in the CCAFS Data Management Support Pack[16] and the CGIAR Open Access and Open Data Support Pack.[17]

CCAFS also provides knowledge and data sharing support through a data and knowledge sharing team. CCAFs has developed a Data Management Strategy[18] and Data Management Support Pack. This pack is designed to help CCAFS researchers produce high-quality, reusable, and open data from research activities.

For both CIAT and CCAFS, the responsibility of ensuring data quality of the research lies with the researchers of each project. The data teams provide support in terms of tools and best practices for data management and documentation to assist in the effort for data quality.

One of the key elements in implementing the Data Management Strategy in CCAFS is enabling a culture. Implementing this strategy requires a significant cultural shift among program participants. Appropriate incentives and penalties should be established to promote data sharing. Metrics on data sharing from each program participant should be used as a criterion for measuring performance, providing rewards, or applying penalties. Among the conditions to facilitate the establishment of a more conducive data culture, CCAFS must do the following:

- Support program partners in the process of submitting data to suitable repositories.
- Work with existing CCAFS repositories to enable interoperability.
- Highlight benefits to researchers to be derived from data sharing such as increased visibility, potential for increased collaboration and publication, and reputation.
- Make available statistics about data downloading and use so as to be able to use this information as a planning tool for the program to promote CCAFS' research agenda and that of our scientific partners among the global audience.

7.3: Data Streams

CIAT projects produce different kinds of data and these are classified according to the difference that is required to manage, archive, and publish the data. All CIAT and CCAFS data are managed at the project level, with the center providing the data and information team for providing guidance, support, and backstopping to project teams. The different data streams listed below will be managed and stored in CIAT's and CCAFS' databases, workspaces, and file systems, which are available to all teams. Standard data management and analysis tools for each domain area should be

[16] https://ccafs.cgiar.org/data-management-support-pack
[17] https://sites.google.com/a/cgxchange.org/oad-support-pack/
[18] http://ccafs.cgiar.org/publications/data-management-strategy

used as much as possible. These data, however, will be published in different ways to ensure that they reach the intended audiences.

1. Survey and experimental data:
   All data that meet the criteria for open data publishing will be published on CIAT's Dataverse. Certain datasets will also be published in domain-specific repositories when this repository provides better reach for intended audiences than Dataverse. For example, occurrence datasets may be published in GBIF and the metadata stored in CIAT repositories.
2. Crop breeding data:
   Data will be published on different platforms to increase their visibility. This will include Breeding Management System databases of the Integrated Breeding Platform, CIAT Dataverse, and the citable dataset replicated on AgTrials as well.
3. Spatial data:
   Spatial data will be published on CIAT's Geonetwork. For those wanting a data citation, datasets will be published on CIAT's Dataverse and the citation, metadata, and data imported into CIAT's Geonetwork.
4. Genomic data:
   Data will be stored on the Bioinformatics and Cassava Genome hub platforms. These data will be published on the NCBI and other genomic-specific data publishing platforms.
5. Climate data:
   Climate, spatial downscaling, and spatial disaggregation data will be stored on the CCAFS-Climate platform.

Section 8: Financial Administration

8.1: Major Expenses

[Use this section to present the budget for open access/open data. Identify any significant expenses.]

Table 2: CIAT's Budget for Open Access/Open Data for 2015.

Line Item	Amount	Explanatory Notes
IT/Infrastructure:		
Data Repository		
Publications repository	$10,000	CGSpace annual support and maintenance fee
Hardware	$4,000 (server) + backup	*<Computers, servers, other equipment>*
Programming/development		*<identify which repository>*
Annual maintenance fees		*<identify which repository>*
Website development related to repositories		*<identify which repository/website>*
<Other>		*<Ex: DOIs or other types of persistent identifiers>*
Staffing:		
Staff salaries – open data		*<Indicate approx. FTE for Open Data>* Regular staff time – Data & Information Manager – 0.4 FTE Regular staff time – Data Manager – 1.0 FTE Regular staff time – Data Management Assistants – 4.0 FTE (2 DM assistants in HQ and 1 in Africa, 1 in Asia)
Staff salaries – OA publications		*<Indicate approx. FTE for Open Access for Pubs>*

		Regular staff time – Data & Information Manager – 0.3 FTE Regular staff time – Information Systems Specialist – 0.5 FTE Regular staff time – Librarian – 1 FTE Consultant – Information Management – 0.4 FTE
Professional development for OA/DM		
Membership Fees:		
Altmetrics provider(s)		*<Indicate which companies/services>*
Publisher-based institutional memberships		*<Indicate which – ex: PLOS Institutional Account, Springer OA Membership>*
<Other>		*<Indicate which – ex: DataCite membership, RDA membership, COAR membership>*
Other Expenses:		
Marketing/promotion materials		Communications/Change Management?
OA fees for articles		*<Article-processing charges – total if the Center is paying for these fees vs. authors incorporating into grant funding or waived fees>*
<Other>		

Table 2: CCAFS Budget for Open Access/Open Data for 2015.

Line Item	Amount	Explanatory Notes
IT/Infrastructure:		
Data repository		
Publications repository	$10,000	CGSpace annual support and maintenance fee
Hardware	$250 (AWS instances) + $2,460 (server + backup)	*<Computers, servers, other equipment>*
Programming/development		CCAFS P&R *<identify which repository>*
Annual maintenance fees		*<identify which repository>*
Website development related to repositories		*<identify which repository/website>*
<Other>		*<Ex: DOIs or other types of persistent identifiers>*
Staffing:		
Staff salaries – open data		*<Indicate approx. FTE for Open Data>* Regular staff time – knowledge and data sharing Coordinator – 1 FTE Regular staff time – Technical Manager – 1 FTE Regular staff time – Data Manager – 0.5 FTE Regular staff time – Multimedia Engineer – 1 FTE Regular staff time – Web Developer – 1 FTE
Staff salaries – OA publications		*<Indicate approx. FTE for Open Access for Pubs>* Regular staff time – Global Communications and Knowledge Manager – 0.2 FTE Regular staff time – Knowledge Management Assistant – 0.5 FTE
Professional development for OA/DM		
Membership Fees:		
Altmetrics provider(s)		*<Indicate which companies/services>*
Publisher-based institutional memberships		*<Indicate which – ex: PLOS Institutional Account, Springer OA Membership>*
<Other>		*<Indicate which – ex: DataCite membership, RDA membership, COAR membership>*
Other Expenses:		

Marketing/promotion materials		Communications/Change Management?
OA fees for articles		*<Article-processing charges – total if the Center is paying for these fees vs. authors incorporating into grant funding or waived fees>*
<Other>		

Section 9: Assessment, Impact, Review

9.1: CIAT/CCAFS Repository-Level Metrics

A majority of the content in CIAT and CCAFS repositories is added by Library, Information Management, Communications, and Data Management staff. The repositories and workflows are set up so that content can be added in a distributed manner with core staff playing a curation and publishing role.

Google Analytics, repository statistics, and citation and article-level metrics databases will be used to track repository-level statistics. The CIAT data and information management team circulates a bi-monthly newsletter that details new research outputs and relevant statistics such as rate of open access, publications with the highest number of citations, and altmetrics.

CCAFS has a centralized download format that collects information about intended use of the data/product.

Non-Data Research Outputs

- Google Analytics will be used to track country-level usage and search terms both in the CGSpace repository and on the CIAT website information product pages.[19][20]
- CGSpace tracks item-level statistics such as views and downloads. CIAT and CCAFS will use the ATMIRE-developed CGSpace analytical modules to create reports for item-level and repository usage statistics.
- CGSpace will include article metric scores of the diffusion of research products online (news media, blogs, social media, scientific tools, e.g., Mendeley) from Altmetric.com. This information will also be provided on CIAT's website and intranet.

Data Research Outputs

- CIAT and CCAFS track the number of downloads of data files from Dataverse and AgTrials.
- Dataverse also provides a "guest book" feature that allows for users downloading files to optionally leave their personal and affiliation details.
- CIAT and CCAFS will enable Google Analytics on their Dataverses as soon as this feature is available on Dataverse.

9.2: Measuring Item-Level Usage/Uptake

[19] https://ciat.cgiar.org/data-information-knowledge/ciat-research-online
[20] https://ccafs.cgiar.org/publications

- CIAT and CCAFS use the page views and downloads of each individual item on the respective websites and CGSpace and Dataverse as proxy indicators of the uptake of individual research outputs.
- Citations of peer-reviewed journal articles are also used as an indicator of uptake. Google Analytics of individual items will be used as an indicator of where the research outputs are being used.
- CIAT also tracks statistics for individual research outputs and the information displayed on the CIAT intranet. This is especially important for peer-reviewed publications. The statistics tracked include the number of citations for each article, impact factor of the journal, and the altmetric score that measures the diffusion of the publication on the Internet.

9.3: Measuring Individuals' Compliance

Credit should be given to researchers for efforts to disseminate their information products in openly accessible ways (i.e., via depositing into CIAT/CCAFS repositories). CIAT currently has no specific method for recognizing staff who comply with the OA/OD policy; however, there are discussions to have this included as part of the performance evaluation.

Currently, only publications deposited in the Library (and subsequently on CGSpace) are automatically added to the performance evaluation system; this, however, rewards the depositing of products but does not provide extra recognition for openness of the products. We will recommend that data and other information products also be considered during performance evaluation.

CIAT provides an updated list of the current year's publications on the intranet. This list, while tracking academic output, also tracks and displays how many of the researcher's publications are open access or not. Closed publications for which the researcher deposits a copy of the post-print manuscript in the institutional repository are considered as open access.

CCAFS measures a center's compliance by the percentage of FAIR outputs reported in the P&R system.

9.4 Assessing and Reviewing CIAT-/CCAFS-Level Progress and Impact

CIAT and CCAFS will track the progress and impact of OA/OD by compiling periodic reports such as bi-monthly newsletters and annual reports. These reports will provide metrics such as the following:

- Open research outputs compared with non-open outputs
- Statistics on usage such as citations, downloads, views, and altmetrics
- Number of new items added to the repositories (growth)
- Analytics of visits and visitors to repositories and research output webpages
- CCAFS percentage of FAIR outputs of the center

9.5: Increasing Visibility – Additional Steps

CIAT and CCAFS will ensure that all repositories are compliant with standards to ensure harvesting of both metadata and data. When possible, efforts will be made to have the repositories harvested by external databases and harvesters such as Google Scholar, the Data Citation Index, OpenDOAR, and re3data.org.

Appendix 1: CGIAR Core Metadata Schema, Dataverse Metadata Crosswalk

Schema	Element	Qualifier	Encoded Name	Dataverse Field	Dataverse DC Term	DDI Term	DataCite 3.1
DC	Title		dc.title	Title	dcterms:title		
DC	Creator		dc:creator	Author Name	Creator		
CG	Creator	ID	cg.creator.ID	Author Identifier			nameIdentifier
CG	Creator	ID Type	cg.creator.ID.type	Author Identifier Scheme			nameIdentifierScheme
DC	Subject		dc.subject	Subject	Subject		
CG	Subject	AGROVOC	cg.subject.agrovoc	Topic classification [AGROVOC Scheme]		topcClas topcClas (vocab)	
CG	Subject	Domain Specific	cg.subject.domain-specific	Topic classification [Domain specific]		topcClas topcClas (vocab)	
DC	Description		dc.description.abstract	Description	description		
DC	Publisher		dc.publisher	Producer Name	Publisher		
DC	Contributor		dc.contributor	Contributor Name	contributor		
CG	Contributor	Center	cg.contributor.center	Contributor ContributerType – Hosting Institution			Contributor contributorType
CG	Contributor	CRP	cg.contributor.crp	Contributor ContributerType – ResearchGroup			Contributor contributorType
CG	Contributor	Funder	cg.contributor.funder	Contributor ContributerType – Funder			Contributor contributorType
CG	Contributor	Partner	cg.contributor.partnerId	Contributor ContributerType – Other/TBC			Contributor contributorType
CG	Contributor	Project	cg.contributor.project	Contributor ContributerType – Other/TBC			Contributor contributorType
CG	Contributor	Project Lead Institution	cg.contributor.project-lead-institute	Contributor ContributerType – Sponsor/TBC			Contributor contributorType
DC	Date		dc.date	Production Date	Date		
CG	Date	Embargo End Date	cg:date.embargo-end-date	AvailabilityStatus		avlStatus	

DC	Type		dc.type	Kind of Data	Type		
DC	Format		dc.format				
DC	Identifier		dc.identifier	Dataset Global ID (Auto-generated)	Identifier		
DC	Identifier	Citation	dc.identifier.citation				
DC	Source		dc.source	Data Sources	Source		
DC	Language		dc.language	Language	Language		
DC	Relation		dc.relation	Other References	Relation		
DC	Coverage		dc.coverage	Other Geographic Coverage	Coverage (dcterms:spatial)		
CG	Coverage	Region	cg.coverage.region	State			Geolocation
CG	Coverage	Country	cg:coverage.country	Country	(dcterms:spatial)		Geolocation
CG	Coverage	Admin. Unit	cg:coverage.admin-unit	Geographic Unit			
CG	Coverage	Geolocation	cg.coverage.geolocation				
CG	Coverage	Start Date	cg.coverage.start-date				
CG	Coverage	End Date	cg.coverage.end-date				
DC	Rights		dc.rights	Terms of Use			
CG	Contact		cg.contact	Contact Name Contact Affiliation Email			Contributor

Appendix 2: CGIAR Core Metadata Schema, CGSpace crosswalk

Schema	Element	Qualifier	Encoded Name	CIAT encoded name	CGCore Status	Vocabulary	Definition
DC	Title		dc.title	dc.title	Required		Official or unofficial title of the document, dataset, image, etc.
DC	Creator		dc.creator	dc.contributor.author dc.contributor.corporate	Required		Creators of the item –typically a person. Could be an organization in case of corporate authors (e.g., center reports)
CG	Creator	ID	cg.creator.ID	Included in CGSpace 5. The field code is not evident.	Req. when applicable		Used if ORCID, SCOPUS, or other type of creator ID scheme is in use. Used in parallel with cg.creator.ID.type.
CG	Creator	ID Type	cg.creator.ID.type	Included in CGSpace 5. The field code is not evident.	Req. when applicable		Used to indicate the type of Creator ID – ex.: SCOPUS, ORCID, etc.
DC	Subject		dc.subject	dc.subject	Required	AGROVOC terms are currently used in CGSpace	Subject matter of the research, technologies tested, etc.
CG	Subject	AGROVOC	cg.subject.agrovoc	Same as dc.subject	Optional	AGROVOC	AGROVOC subject matter or research area
CG	Subject	Domain-Specific	cg.subject.domain-specific	cg.subject.ciat	Optional	Domain-specific (ex.: MeSH)	Subject matter or research area from domain-specific vocabularies; if missing, from AGROVOC.
DC	Description	Abstract	dc.description.abstract	dc.description.abstract	Optional		Abstract or other description of the item
DC	Publisher		dc.publisher	dc.publisher	Req. when applicable		Entity responsible for publication, distribution, or imprint
DC	Contributor		dc.contributor	dc.contributor.author dc.contributor.corporate	Required		Person, organization, or service making contributions to resource content; CGIAR affiliation
CG	Contributor	Center	cg.contributor.center	dc.contributor.affiliation	Required	CGIAR	Research centers and offices with which creators are affiliated

CG	Contributor	CRP	cg.contributor.crp	dc.crpsubject.crpsubject	Required	CGIAR	CGIAR Research Program with which the research is affiliated
CG	Contributor	Funder	cg.contributor.funder	dc.description.sponsorship	Required	CGIAR	Funder, funding agency, or sponsor
CG	Contributor	Partner	cg.contributor.partnerId	dc.identifier.fund	Required	CGIAR	Partners, funding agencies, other CGIAR centers
CG	Contributor	Project	cg.contributor.project	Unavailable in CGSpace	Required	CGIAR	Name of project with which the research is affiliated
CG	Contributor	Project Lead Institution	cg.contributor.project-lead-institute	Unavailable in CGSpace	Req. when applicable	CGIAR	The lead institution for the project (CGIAR or otherwise) connected to the research output being described
DC	Date		dc.date	dc.date.issued	Required		Publication or creation date
CG	Date	Embargo End Date	cg:date.embargo-end-date	Embargo controls are currently available in CGSpace. The field code is not evident.	Req. when applicable		Used when an item has an embargo by publisher (ex.: 6- or 12-month embargo)
DC	Type		dc.type	dc.type.output	Required	CGIAR	Nature or genre of item/content (e.g., poster, dataset)
DC	Format		dc.format	Automatically generated by CGSpace with file uploads. Field code is not evident.	Required	CGIAR	File format of item (e.g., PDF, jpg, etc.)
DC	Identifier		dc.identifier	dc.identifier.doi, dc.description.uri dc.identifier.uri	Required		Unambiguous reference to resource such as doi, uri
DC	Identifier	Citation	dc.identifier.citation	dc.identifier.citation	Optional		Human-readable, standard bibliographic citation for the item
DC	Source		dc.source	Currently only dc.jtitle, when applicable. Other source codes or simply dc.source would be useful.	Req. when applicable		Journal/conference title; vol., no. (year)
DC	Language		dc.language	dc.language	Optional	ISO 639-1 or ISO 639-2	Language of the item; use ISO 639-1 (alpha-2) or ISO 639-2 (alpha-3).

DC	Relation		dc.relation	Available in CGSpace, but not used. CIAT uses dc.relation.ispartofseries only.	Optional		Supplemental files, e.g., datasets related to publications or larger “whole.”
DC	Coverage		dc.coverage	Unavailable in CGSpace	Req. when applicable	CGIAR	Geospatial coordinates, countries, regions, sub-regions, chronological period
CG	Coverage	Region	cg.coverage.region	dc.rplace.region	Req. when applicable	UN Stats	Supra-national areas (above country level) related to the item being described
CG	Coverage	Country	cg:coverage.country	dc.cplace.country	Req. when applicable	ISO 3166	Country/countries related to the data collected in the resource
CG	Coverage	Admin. Unit	cg:coverage.admin-unit	A few terms available as dc.rplace.subregion	Req. when applicable	GAUL	Sub-national administrative areas such as provinces, states, or districts
CG	Coverage	Geolocation	cg.coverage.geolocation	Unavailable in CGSpace	Req. when applicable		Coordinates or polygon points for boundaries of area where research was conducted
CG	Coverage	Start Date	cg.coverage.start-date	Unavailable in CGSpace	Req. when applicable	CGIAR	Chronological period: start date of activity described in resource
CG	Coverage	End Date	cg.coverage.end-date	Unavailable in CGSpace	Req. when applicable	CGIAR	Chronological period: end date of activity described in resource
DC	Rights		dc.rights	dc.description	Required		Rights, licensing, or permission statement.
CG	Contact		cg.contact	Unavailable in CGSpace	Optional		For data: email address for group or department to contact in case of questions

Appendix 3: CGIAR Core Metadata Schema, AgTrials crosswalk

Schema	Element	Qualifier	Encoded Name	Vocabulary	Definition	AgTrials	Mandatory Fields
DC	Title		dc.title		Official or unofficial title of the document, dataset, image, etc.	Trial name	x
DC	Creator		dc.creator		Creator of the item (person, organization, or service)	Lead of Project (last, middle, name)	x
CG	Creator	ID	cg.creator.ID		Used if ORCID, SCOPUS, or other type of creator ID scheme is in use. Used in parallel with cg.creator.ID.type.	Lead of Project ID	
CG	Creator	ID Type	cg.creator.ID.type		Used to indicate the type of Creator ID – ex.: SCOPUS, ORCID, etc.	Lead of Project ID type	
DC	Subject		dc.subject		Subject matter of the research, technologies tested, etc.	Keywords	x
CG	Subject	AGROVOC	cg.subject.agrovoc	AGROVOC	AGROVOC subject matter or research area	AGROVOC Subject Terms	
CG	Subject	Domain- Specific	cg.subject.domain-specific	Domain-specific (e.g., MeSH)	Subject matter or research area from domain-specific vocabularies; if missing, from AGROVOC	Primary discipline (add other, please specify)	x
DC	Description		dc.description.abstract		Abstract or longer description of the item	Abstract	x
DC	Publisher		dc.publisher		Entity responsible for publication, distribution, or printing	NA	
DC	Contributor		dc.contributor		Person, organization, or service making contributions to resource content; research centers and offices with which creators are affiliated	Lead Institution	x
CG	Contributor	CRP	cg.contributor.crp	CGIAR	CGIAR Research Program with which the research is affiliated	CRP	

CG	Contributor	Funder	cg.contributor.funder	CGIAR	Funder, funding agency, or sponsor	Donor Name	x
CG	Contributor	Partner	cg.contributor.partnerId	CGIAR	Partners, funding agencies, other CGIAR centers	Implementing Institutions	
CG	Contributor	Project	cg.contributor.project	CGIAR	Name of project with which the research is affiliated	Project	
DC	Date		dc.date		Publication, creation or issue date – the formal publication date in case of manuscripts	End of Trial (autofill based on trial implementing period end date?)	x
CG	Date	Embargo End Date	cg:date.embargoEndDate		Date project ends and/or final research output is public	End Date of the Project	x
DC	Type		dc.type	CGIAR	Nature or genre of item/content (e.g., poster, dataset)	Dataset (autofill)	x
DC	Format		dc.format	CGIAR	File format of item (e.g., PDF, jpg, etc.)	Generated by script	x
DC	Identifier		dc.identifier		Unambiguous reference to resource such as doi, uri	To de done	x
DC	Identifier	Citation	dc.identifier.citation		Human-readable, standard bibliographic citation for the item	To be done	
DC	Source		dc.source		Journal/conference title; vol., no. (year)	NA	
DC	Language		dc.language	ISO 639-1 or ISO 639-2	Language of the item; use ISO 639-1 (alpha-2) or ISO 639-2 (alpha-3).	Add language	x
DC	Relation		dc.relation		Supplemental files, e.g., datasets related to publications or larger “whole”	Supplemental Information File	
DC	Coverage		dc.coverage	CGIAR Vocabulary	Geospatial coordinates, countries, regions, sub-regions, chronological period	Latitude and Longitude	
CG	Coverage	Region	dc.coverage.region	CGIAR Vocabulary	FAO or World Bank list	Add region	x
CG	Coverage	Country	dc:coverage.country	CGIAR Vocabulary	Country/countries related to the data collected in the resource. ISO 3166 Standard.	Country, match standard	x

CG	Coverage	Sub-national	dc.coverage.subnational	CGIAR Vocabulary	State, province, county, district, etc.; GAUL (FAO)	District/State/Province Level	
CG	Coverage	Populated Place	dc.coverage.populatedplace	Text	City, town, village, etc.	Village Level	
CG	Coverage	Start Date	dc.coverage.start-date	CGIAR Vocabulary	Chronological period: start date of activity described in resource	Trial implementing period start date	x
CG	Coverage	End Date	dc.coverage.end-date	CGIAR Vocabulary	Chronological period: end date of activity described in resource	Trial implementing period end date	x
DC	Rights		dc.rights		Rights, licensing, permission statement	License	x

Appendix 4: CGIAR Core Metadata Schema, CCAFS-Climate crosswalk

Schema	Element	Qualifier	Encoded Name	Status	Vocabulary	Definition	CCAFS-Climate
DC	Title		dc.title	Required		Official or unofficial title of the document, dataset, image, etc.	dataset_fileset: name
DC	Creator		dc:creator	Required		Creators of the item – typically a person. Could be an organization in case of corporate authors (e.g., center reports).	NA
CG	Creator	ID	cg.creator.ID	Req. when applicable		Used if ORCID, SCOPUS, or other type of creator ID scheme is in use. Used in parallel with cg.creator.ID.type.	NA
CG	Creator	ID Type	cg.creator.ID.type	Req. when applicable		Used to indicate the type of Creator ID – ex.: SCOPUS, ORCID, etc.	NA
DC	Subject		dc.subject	Required		Subject matter of the research, technologies tested, etc.	dataset_fileset_category: name
CG	Subject	AGROVOC	cg.subject.agrovoc	Optional	AGROVOC	AGROVOC subject matter or research area.	NA
CG	Subject	Domain-Specific	cg.subject.domain-specific	Optional	Domain-specific (ex.: MeSH)	Subject matter or research area from domain-specific vocabularies; if missing, from AGROVOC.	NA
DC	Description		dc.description.abstract	Optional		Abstract or other description of the item	dataset_fileset: description
DC	Publisher		dc.publisher	Req. when applicable		Entity responsible for publication, distribution, or printing	CCAFS-Climate
DC	Contributor		dc.contributor	Required		Person, organization, or service making contributions to resource content; CGIAR affiliation	CIAT

CG	Contributor	Center	cg.contributor.center	Required	CGIAR	Research centers and offices with which creators are affiliated	NA
CG	Contributor	CRP	cg.contributor.crp	Required	CGIAR	CGIAR Research Program with which the research is affiliated	CCAFS
CG	Contributor	Funder	cg.contributor.funder	Required	CGIAR	Funder, funding agency, or sponsor	
CG	Contributor	Partner	cg.contributor.partnerId	Required	CGIAR	Partners, funding agencies, other CGIAR centers	CIAT, ILRI, IFRPI, PIK, HarvestChoice, IPM
CG	Contributor	Project	cg.contributor.project	Required	CGIAR	Name of project with which the research is affiliated	Flagship 1
CG	Contributor	Project Lead Institution	cg.contributor.project-lead-institute	Req. when applicable	CGIAR	The lead institution for the project (CGIAR or otherwise) connected to the research output being described	CIAT
DC	Date		dc.date	Required		Publication or creation date	NA
CG	Date	Embargo End Date	cg:date.embargo-end-date	Req. when applicable		Used when an item has an embargo by publisher (ex.: 6- or 12-month embargo)	NA
DC	Type		dc.type	Required	CGIAR	Nature or genre of item/content (e.g., poster, dataset)	dataset
DC	Format		dc.format	Required	CGIAR	File format of item (e.g., PDF, jpg, etc.)	dataset_format
DC	Identifier		dc.identifier	Required		Unambiguous reference to resource such as doi, uri	oai:ccafs_climate.org:ID
DC	Identifier	Citation	dc.identifier.citation	Optional		Human-readable, standard bibliographic citation for the item	
DC	Source		dc.source	Req. when applicable		Journal/conference title; vol., no. (year)	NA
DC	Language		dc.language	Optional	ISO 639-1 or ISO 639-2	Language of the item; use ISO 639-1 (alpha-2) or ISO 639-2 (alpha-3).	EN

DC	Relation		dc.relation	Optional		Supplemental files, e.g., datasets related to publications or larger "whole"	NA
DC	Coverage		dc.coverage	Req. when applicable	CGIAR Vocabulary	Geospatial coordinates, countries, regions, sub-regions, chronological period	Global
CG	Coverage	Region	cg.coverage.region	Req. when applicable	UN Stats	Supra-national areas (above country level) related to the item being described	NA
CG	Coverage	Country	cg:coverage.country	Req. when applicable	ISO 3166	Country/countries related to the data collected in the resource	NA
CG	Coverage	Admin. Unit	cg:coverage.admin-unit	Req. when applicable	GAUL	Sub-national administrative areas such as provinces, states, or districts	NA
CG	Coverage	Geolocation	cg.coverage.geolocation	Req. when applicable		Coordinates or polygon points for boundaries of area where research was conducted	NA
CG	Coverage	Start Date	cg.coverage.start-date	Req. when applicable	CGIAR Vocabulary	Chronological period: start date of activity described in resource	NA
CG	Coverage	End Date	cg.coverage.end-date	Req. when applicable	CGIAR Vocabulary	Chronological period: end date of activity described in resource	NA
DC	Rights		dc.rights	Required		Rights, licensing, or permission statement	Creative Commons Attribution-NonCommercial 4.0 International License
CG	Contact		cg.contact	Optional		For data: email address for group or department to contact in case of questions	

Appendix 5: CGIAR Core Metadata Schema, AMKN crosswalk

Schema	Element	Qualifier	Encoded Name	Status	Vocabulary	Definition	AMKN
DC	Title		dc.title	Required		Official or unofficial title of the document, dataset, image, etc.	WP Title
DC	Creator		dc:creator	Required		Creators of the item – typically a person. Could be an organization in case of corporate authors (e.g., center reports).	syndication_creator
CG	Creator	ID	cg.creator.ID	Req. when applicable		Used if ORCID, SCOPUS, or other type of creator ID scheme is in use. Used in parallel with cg.creator.ID.type.	NA
CG	Creator	ID Type	cg.creator.ID.type	Req. when applicable		Used to indicate the type of Creator ID – ex.: SCOPUS, ORCID, etc.	NA
DC	Subject		dc.subject	Required		Subject matter of the research, technologies tested, etc.	dc.title - dc.type
CG	Subject	AGROVOC	cg.subject.agrovoc	Optional	AGROVOC	AGROVOC subject matter or research area	NA

CG	Subject	Domain-Specific	cg.subject.domain-specific	Optional	Domain-specific (ex.: MeSH)	Subject matter or research area from domain-specific vocabularies; if missing, from AGROVOC	NA
DC	Description		dc.description.abstract	Optional		Abstract or other description of the item	WP Excerpt
DC	Publisher		dc.publisher	Req. when applicable		Entity responsible for publication, distribution, or printing	syndication_source
DC	Contributor		dc.contributor	Required		Person, organization, or service making contributions to resource content; CGIAR affiliation	CCAFS
CG	Contributor	Center	cg.contributor.center	Required	CGIAR	Research centers and offices with which creators are affiliated	
CG	Contributor	CRP	cg.contributor.crp	Required	CGIAR	CGIAR Research Program with which the research is affiliated	CCAFS
CG	Contributor	Funder	cg.contributor.funder	Required	CGIAR	Funder, funding agency, or sponsor	NA
CG	Contributor	Partner	cg.contributor.partnerId	Required	CGIAR	Partners, funding agencies, other CGIAR centers	NA
CG	Contributor	Project	cg.contributor.project	Required	CGIAR	Name of project with which the research is affiliated	NA
CG	Contributor	Project Lead Institution	cg.contributor.project-lead-institute	Req. when applicable	CGIAR	The lead institution for the project (CGIAR or otherwise) connected to the research output being described	NA
DC	Date		dc.date	Required		Publication or creation date	WP post_date
CG	Date	Embargo End Date	cg:date.embargo-end-date	Req. when applicable		Used when an item has an embargo by publisher (ex.: 6- or 12-month embargo)	NA
DC	Type		dc.type	Required	CGIAR	Nature or genre of item/content (e.g., poster, dataset)	VIDEO, IMAGES, BLOGPOST, CASESTUDIES
DC	Format		dc.format	Required	CGIAR	File format of item (e.g., PDF, jpg, etc.)	Web

DC	Identifier		dc.identifier	Required		Unambiguous reference to resource such as doi, uri	oai:amkn.org:xxx
DC	Identifier	Citation	dc.identifier.citation	Optional		Human-readable, standard bibliographic citation for the item	NA
DC	Source		dc.source	Req. when applicable		Journal/conference title; vol., no. (year)	syndication_permalink
DC	Language		dc.language	Optional	ISO 639-1 or ISO 639-2	Language of the item; use ISO 639-1 (alpha-2) or ISO 639-2 (alpha-3).	EN
DC	Relation		dc.relation	Optional		Supplemental files (e.g., datasets related to publications or larger “whole”)	NA
DC	Coverage		dc.coverage	Req. when applicable	CGIAR Vocabulary	Geospatial coordinates, countries, regions, sub-regions, chronological period	geoRSSPoint
CG	Coverage	Region	cg.coverage.region	Req. when applicable	UN Stats	Supra-national areas (above country level) related to the item being described	NA
CG	Coverage	Country	cg:coverage.country	Req. when applicable	ISO 3166	Country/countries related to the data collected in the resource	city
CG	Coverage	Admin. Unit	cg:coverage.admin-unit	Req. when applicable	GAUL	Sub-national administrative areas such as provinces, states, or districts	NA
CG	Coverage	Geolocation	cg.coverage.geolocation	Req. when applicable		Coordinates or polygon points for boundaries of area where research was conducted	NA
CG	Coverage	Start Date	cg.coverage.start-date	Req. when applicable	CGIAR Vocabulary	Chronological period: start date of activity described in resource	NA
CG	Coverage	End Date	cg.coverage.end-date	Req. when applicable	CGIAR Vocabulary	Chronological period: end date of activity described in resource	NA
DC	Rights		dc.rights	Required		Rights, licensing, or permission statement	Open Access

CG	Contact		cg.contact	Optional		For data: email address for group or department to contact in case of questions	ccafs@cgiar.org

Appendix 6: CCAFS Classification and Metadata Schema

Category	Sub-Category	OA Timeline (months)	Description
Data and information outputs, including datasets, databases, and models	Data	12	Primary data/raw data (unprocessed data)
	Datasets	12	Dataset is a collection of data.
	Databases	12	Database is an organized collection of data.
	Models	12	Crop model
Reports, Reference Materials, and Other Papers	Research report	3	Workshop report, consultant's report, project report, student thesis, portfolio, etc.
	Policy brief, Briefing paper	3	Policy brief, info note, etc.
	Working paper	3	Working paper
	Conference proceedings/paper	3	Conference proceedings, conference paper
	Seminar paper	3	Seminar paper
	Discussion paper	3	Discussion paper
	Reference material	3	Booklet or training manual for extension agents, etc.
	Non-peer- reviewed articles	3	Article in a magazine
	Case study	Immediately	Case study, outcome case, etc.
Peer-reviewed Publications	Peer-reviewed journal articles	6	Peer-reviewed journal article from scientific journal

Open Access Policy
Peer-reviewed journal articles **(6)**
Books and book chapters **(6)**
Data and databases **(12)**
Reports and other papers **(3)**
Video, audio, images **(3)**
Computer software **(imm)**

	Books	6	Peer-reviewed book
	Book chapters	6	Peer-reviewed book chapter
Communication Products and Multimedia	Articles for media or news	Immediately	Radio, TV, newspaper, newsletter, etc.
	Social media outputs	Immediately	Website, blog, wiki, Linkedin group, Facebook, Yammer, etc.
	Posters	Immediately	Poster
	Presentations	Immediately	Presentation
	Video	3	Video
	Audio	3	Audio
	Images	3	Photo, picture, etc.
Tools and Computer Software	Platforms – data portals for dissemination	Immediately	Data portal for dissemination
	Maps	Immediately	CCAFS sites atlas, cropland, etc.
	Tools	Immediately	Search engine, game, etc.
	Website	Immediately	Website, blog, etc.
	Other (please specify)	Immediately	Algorithms
Workshops		N/A	
Capacity		N/A	

Appendix 7: CGIAR-CIAT Guidance to Authors

Open Access: Publications

Guidance for Authors

In November of 2013, all 15 members of the CGIAR Consortium unanimously adopted the CGIAR Open Access and Data Management Policy. The Policy commits CGIAR to making publications, data sets, and other final or completed versions of information products openly and freely accessible. CGIAR strongly believes that this clear commitment to Open Access will improve the efficiency, efficacy, and impact of its research and allow the global public to further benefit from it.

Questions?

- Copyright transfers, negotiating with publishers, or potential legal obstacles to publishing (e.g. confidentiality or IP considerations): contact your local Center or CRP's Legal/IP Focal Point.
- Depositing manuscripts into the OA Repository: contact your local OA Focal Point.

Three Steps to Comply:

1 Retain your rights

Once manuscripts have been accepted by a journal, publishers typically require authors to sign a Copyright Transfer Agreement. CGIAR encourages all Centers to use an Author Addendum to retain specific rights necessary to legally deposit and disseminate article manuscripts via repositories and comply with the CGIAR Open Access Policy. Of particular importance are the rights to deposit the peer-reviewed version of manuscripts, deposit immediately, and allow for re-use rights such as translations.

2 Deposit

As soon as the peer-review process has concluded and your article manuscript has been finalized, deposit a copy of the manuscript along with relevant metadata about the article into your Center's or CRP's repository. Include details such as the complete names of all authors, publication and journal information, abstracts, and appropriate keywords. CGIAR-specific details such as Centers and CRPs are also important.

3 Share

CGIAR Open Access Repositories are designed to make publications globally searchable, discoverable, and accessible. Search engines such as Google and Google Scholar are able to index and provide access to materials in these repositories. While technology makes content available, using social media to announce articles' publication also helps spread the word, attract mainstream media attention, and make articles more widely discoverable.

Copyright Transfer Agreements & Addenda

As part of the typical publishing process, publishers ask Ŧƨℕ a CopyℕΛƎKΰ Transfer Agreement (CTA) or similar form. These forms ask authors ƨℕ ƨǿyŜℕă ΰƨ transfer copyright ownership – and all associated rights -- to the publisher.

Article 4.2.1 of the CGIAR Open Access & Data Management Policy requires that "*Peer-reviewed versions of scholarly articles…should be deposited in a suitable repository and made Open Access…When an author publishes in a closed access journal, he/she shall self-archive in an Open Access repository a digital version of the final accepted manuscript (the "post print" version).*"

In order to comply with the CGIAR Open Access Policy, authors should deposit a final, peer-reviewed copy of each manuscript into a CGIAR repository and allow for public access immediately (ideally, otherwise no later than 6 months from the date of publication). It is critically important that you have retained the necessary rights from publisher to do so.

Increasingly, publishers are automatically granting certain privileges to authors such as permission to deposit. Even so, each journal and publisher has its own practices, many of which are inconsistent with the CGIAR Open Access Policy. Therefore, it is highly recommended that all /ŜyΰŜℕă attach a signed IŀŘŘŜyŘdzY when signing copyright transfer agreements or any other publishʎyƎ Ŏƨyΰℕł·ŎΰăIn order to be compliant. CGIAR has prepared a model AŘŜyŘdzY ΰƨ dzăŜ specifically for this purpose.

Note: The CGIAR Addendum aims to secure additional rights for /ŜyΰŜℕă that exceed the minimum requirements indicated in the CGIAR Open Access Policy. For example, the Addendum aims to secure permission to imY ŜŘʌł·ΰŜfè deposit the publisher's version of an article, not the peer-reviewed "post-print" version no later than 6 month s from the date of publication. Authors are encouraged to consult their local IP focal point in order to ƎŜΰ ŎfŜł·ℕπ ł·yŐŜ ł·yŘ ł·ăăʌăΰł·yŐŜ ʎyˇyŜƎƨΰʌł·ΰʌƨyˇ ǿʌΰK LJdzōfʌăKŜℕă ł·yŘ ăŜŐdzℕΛyƎ ł·LJLJℕƨLJℕΛł·ΰŜ rights.

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3. Note in a cover letter to your publisher that you have included an addendum to the agreement.
4. Mail the addendum to the publisher along with your copyright transfer agreement and cover letter.
5. If the publisher does not object to the AddenŘdzYΣ deposit the publisher's version of the manuscript into a CGIAR repository. If the publisher objects, consult your local Legal/IP Focal Point.

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- Negotiate with publishers to grant a license to publish, reproduce, and distribute the article, but ensure that Center retains all other rights, including the right to deposit the post-print, peer-reviewed article in an Open Access repository without a delay or no later than 6 months from the date of publication.

Last updated: hŐΰ¢ 2015
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CGIAR Addendum to the Publication Agreement

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CIAT is the owner of the copyright (OWNER) in works created by the AUTHOR in virtue of an employment contract.

CIAT is bound by the CGIAR Open Access & Data Management Policy (http://bit.ly/cgiar-oa-policy) and relevant downstream institutional policies relating to the accessibility of publications accepted for publication.

CGIAR is a global partnership that unites organizations engaged in research for a food secure future. CGIAR research is dedicated to reducing rural poverty, increasing food security, improving human health and nutrition, and ensuring more sustainable management of natural resources. It is carried out by the 15 centers who are members of the CGIAR Consortium in close collaboration with hundreds of partner organizations, including national and regional research institutes, civil society organizations, academia and private sector. www.cgiar.org

This addendum prepared in response to the CGIAR Open Access & Data Management Policy modifies and supplements the attached Publication Agreement ("Addendum") concerning:

_____

(Manuscript title)

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(Journal)

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